

PROGRAM, PROBLEMS, AND POLICIES CONCERNING MINERAL RESOURCES IN OHIO

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Twelve years before the founding of this great University, whose centennial we observe today, W. W. Mather, Ohio's first State Geologist, wrote in his report of 1838 "The primary object with the Legislature, in authorizing the Geological Survey of the State, was to develop its natural resources, with a view to their application to the economical purposes of life."

Down through the years, the program of the Survey has been based on that philosophy. It has always been a research organization, dedicated to discovering and making known scientific data on the mineral resources and geology of Ohio. Today that program remains unchanged. The staff serves the public by regular publication of reports on its findings, by letter, telegram, or telephone, and by personal interview. The Survey's extensive files of physical and chemical data, its many and varied publications and maps, and the helpful suggestions of its staff of specialists are available to all who are interested in industrial development, public improvements, and conservation of resources.

The new Natural Resources Law defines a specific program in considerably more detail than any previous act. It says:

SEC. 802. * * * The division of geological survey, department of natural resources, shall:

a. Collect, study and interpret all available information pertaining to the geomorphology, stratigraphy, paleontology, mineralogy, and geologic structure of the state and shall publish reports on the same.

b. Collect, study and interpret all available data pertaining to the origin, distribution, extent, use and valuation of mineralogical and geological raw materials and natural resources such as: clays, coals, building stones, gypsum, limestones and shales for cement and other uses, petroleum gas, brines, saline deposits, molding sands, and other natural substances of use and value, excluding only those pertaining to water usable as such for agricultural, industrial, commercial and domestic purposes, but not excluding other rock fluids such as natural and artificial brines and oil-well fluids.

c. Make special studies and reports of resources of geological nature within the state which in its discretion are of current or potential economic or educational significance. The division of geological survey at its discretion shall examine the technological processes by which mining, quarrying, or other extracting processes may be improved, or by which materials now uneconomical to exploit may be extracted and used commercially for the public welfare.

d. Make, store, and have available for distribution maps, diagrams, profiles and geologic sections portraying the geological characteristics and topography of the state, both of general nature and of specific localities.

e. At its discretion or at the request of other agencies of the state government, advise and consult with representatives of those agencies on problems of geological nature.

There are some other minor provisions and the section on geology closes by stating:

SEC. 802-3. Nothing in this act shall be construed as limiting the authority of the chief of the division of geological survey to investigate, survey, interpret and report matters relating to the geological or mineralogical conditions of the state, or to technologies pertaining to them, to the end that industry, commerce, education, public health and recreation may be advanced.

There are features of other acts which do limit the activity of the Survey however, particularly the lack of certain provisions in the biennial appropriation acts.

Over 30 separate projects are being carried forward at the present time. Surface geology studies are progressing in Adams, Athens, Coshocton, Gallia, Hocking, Lucas, Monroe, Morgan, Perry, Stark, Tuscarawas and Washington counties. Such projects include studies in stratigraphy, paleontology, geomorphology, structure and particularly the economic geology of the area.

Editorial work is progressing on a voluminous manuscript by Dr. Wilbur Stout on the Monongahela formation of Ohio and one on the Mississippian formation by Dr. J. E. Hyde.

The coal section of the survey is engaged in a continuing, long range program of accumulation and correlation of data on the geology, thickness, composition, and reserves of Ohio coal desposits.

In co-operation with the Engineering Experiment Station of the Ohio State University, a study is being made of the uses of Ohio coals as a source of synthetic liquid fuel. Another co-operative project with the Station is a detailed field sampling and laboratory analytical study of the Meigs Creek or No. 9 coal. Vast reserves of this coal exist in Ohio but certain types of treatment or beneficiation may greatly improve its quality.

The oil and gas section is also engaged in a long range program of collection detailed information on the more than 200,000 wells which have been drilled in Ohio.

The section prepares each year a review of oil and gas drilling activity in the State.

A thorough study of oil and gas in Perry County is being made and a chapter on the subject will be incorporated in the county bulletin.

Industrial minerals are the mineral resources other than the metallics and the mineral fuels. Clay, salt, limestone, and dolomite, sand and gravel, gypsum, and sandstone are important Ohio industrial minerals.

Progress is being made on the study of the Sharon Conglomerate, a source of silica used by a number of Ohio industries.

Detailed studies of the joints in the limestones of Western Ohio is being carried forward and may have a number of future economic applications.

Chemical analyses of over 130 limestone samples from Eastern Ohio have been completed and a bulletin on the subject is in preparation.

A reconnaissance study of the sand and gravel despoits of the northern half of Ohio has been made and a report issued. Much additional work is needed on these resources.

A co-operative study with the Cleveland Illuminating Co. on salt and brines of Northern Ohio is being carried on.

Work on a new Geography of Ohio is going forward with publication expected in early 1952.

A limited amount of work is being done on the geology of Lake Erie and it is hoped that additional studies can be carried on during the coming year.

Collection of cores and of oil and gas well cuttings is continuing and studies of these sub-surface materials is under way.

Approximately one-third of the time of the entire staff is devoted to public service. This includes the answering of inquiries by telephone, telegram, letter, and personal interview; the preparation of news releases, technical papers and pamphlets of general interest; service on various boards and committees; and the presentation of talks and reports before numerous organizations.

So much for the present program of the Survey. Of course we have some problems too. Through the years the major problem has always been an adequate

appropriation to meet the responsibility imposed by law. In 1838 Mather closed his report on the following optimistic note:

"Ohio has never yet retraced her steps in any work of public utility that she has undertaken, and the idea can scarcely be entertained, that she will withhold the appropriation of a few thousands, by the expenditure of which millions will be returned to her citizens."

Appealing to the far-sightedness of our people has not always had the desired result, however. At one time in the depth of the depression the entire appropriation was discontinued and Dr. Stout carried on for some months without any funds whatsoever.

Today our appropriation is not adequate to meet the responsibility of the new law. Nor is it adequate to serve our people in the way that the citizens of many other states are being served geologically. Illinois is investing ten times as much each year and 19 other states carry on more extensive programs than does Ohio. This in spite of the fact that though 35th in size we rank 9th in value of raw minerals produced. This is our major problem.

Another problem, regardless of appropriations is the matter of space and location. For over half a century the Survey has been located in Orton Hall, the geology building on the Ohio State University campus. This building, constructed in 1893 houses, in addition to the University's Geology Department, the Geological Museum and the Orton Memorial Library of Geology.

If the State constructs a Natural Resources building will it provide the proper atmosphere for continued basic research, an atmosphere which certainly exists on a great University campus? If the Survey remains in Orton will its growth be stunted by the lack of Laboratory facilities so essential to implementation of its assignments under the new law? This too is a perplexing problem facing your Survey.

Personnel is not a pressing problem at the moment. Ohio has always had her share of outstanding scientists, including geologists. Over 50 applications for summer work or full time employment have been received in recent months. The state is in the process of establishing a modern civil service classification system and apparently geologists will be properly recognized. The personnel problem is merely the appropriation problem in disguise.

The Division of Geological Survey, like its predecessor, the Geological Survey of Ohio, operates on a broad policy of careful and efficient expenditure of the taxpayers' money. Co-operation is the answer to a limited budget. If Federal, State or industrial organizations are satisfactorily performing functions assigned to the Survey I see no need for duplication. Our relationships with the Engineering Experiment Station of the Ohio State University, the Geology Department, the Division of Mines, the Division of Water, the Highway Department, the Industrial Relations Department, the Commerce Department, the various mineral associations, the U. S. Geological Survey and Bureau of Mines, the Ohio Chamber of Commerce and other like organizations are excellent. Co-operative projects are carried on with many of these groups. We could not do our job without their support.

This is a conservation program. The key to mineral conservation is a policy of intelligent use. True conservation is making the most of what we have. Such a policy is founded on the following principles:

1. Avoid waste and needless destruction of our mineral resources.
2. Gain full basic knowledge of our resources and their potentialities.
3. Exploit low-grade reserves and find new resources through improved exploration and production methods.
4. Increase recovery of minerals in processing through improved methods.
5. Find uses for abundant latent mineral resources and widen the utilization of byproduct minerals.

6. Adopt broad, forward-looking research programs to advance all phases of mineral technology.
7. Promote a healthy mineral economy which will encourage the investment of risk capital vital to mineral production and which will insure the maximum life span to declining production.

We are dedicated to such a program by tradition, by past performance and by the new natural resources law. You may rest assured that in the future, as it has in the past, your Survey will be making its contribution, through science, to a greater Ohio.
